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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Iwao Ueno

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EXAMINER

LEE, EUGENE

ART UNIT

PAPER NUMBER

2815

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,761	Applicant(s) UENO ET AL.	
	Examiner EUGENE LEE	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-12 and 14-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-12 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 10 contains a range (not less than 10% to less than 100%) that is not inclusive of the range (range of not less than 50% to less than 100%) described in independent claim 1.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 thru 5, 7 thru 12, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "porosity" is unclear because it is unknown how "porosity" is measured. For example, it is unclear whether porosity would be the total amount of pores the phosphor particle resides in a light emitting layer or whether it would be the total amount of air gaps in between the phosphor particles relative to the entire volume of the light emitting layer. Appropriate clarification and/or correction are required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. In view of the 112 rejection, claims 1 thru 5, and 7 thru 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ueno et al. US 2005/0174037 A1. Ueno discloses (see, for example, FIG. 8) a light-emitting element comprising a light-emitting layer 123, phosphor particles (phosphor) 11, electrodes (at least two electrodes) 14/40, and coating layer/insulative fiber (at least two kinds of electrically insulating layers with different dielectric constants) 12/18.

Regarding the limitation “having a porosity in a range of not less than 50% to less than 100%”, see, for example, paragraph [0127] wherein Ueno discloses porosity of between 50 to 90%.

Regarding the limitation “an AC electric field being applicable between the two electrodes to cause gas breakdown between the two electrodes to generate primary electrons, the primary electron causing surface discharge in the porous light-emitting body in the light-emitting layer, so that secondary electrons and ultraviolet rays are emitted, and the emitted secondary electrons and ultraviolet rays exciting a luminescence center of the porous light-emitting body, so that the porous light-emitting body emits light”, see, for example, paragraph [00120] wherein Ueno discloses a voltage applied between the electrodes 14/40 as an alternating current and

Art Unit: 2815

causes discharge and pumps the phosphor particles 11 which emits ultraviolet light and visible light.

Regarding claim 2, see, for example, FIG. 8 wherein Ueno discloses the electrodes on the outer edges of the light-emitting element and therefore formed on interfaces of the electrically insulating layers with different dielectric constants.

Regarding claims 3, and 4, see, for example, paragraph [0128] wherein Ueno discloses the insulative fiber may be titanium dioxide whose dielectric constant is 110.

Regarding claim 5, see, for example, FIG. 8 wherein Ueno discloses the back electrode 40.

Regarding claims 7, and 12, see, for example, column [0044] wherein Ueno discloses the light-emitting body may be filled with inert gas.

Regarding claim 8, see, for example, FIG. 8 wherein Ueno discloses phosphors 11, and column [0044] wherein Ueno discloses inert gas.

Regarding claims 9, and 11, see, for example, FIG. 8 wherein Ueno discloses a phosphor particle 11, MgO coating layer 12, and insulative fiber 18.

Regarding claim 10, see 112 rejection above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2815

7. Claims 1 thru 5, 7 thru 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al. 6,611,099 B1 in view of Negley 7,042,020 B2. Murata discloses (see, for example, FIG. 2A-2C) a display panel (light-emitting element) comprising a phosphor layer (light-emitting layer) 41R/41G/41B, phosphor ball (phosphor) 41, display electrodes (at least two electrodes) 33/13, and phosphor layer/dielectric layer (at least two kinds of electrically insulating layers with different dielectric constants) 41R/41G/41B, 15. Murata does not disclose the porosity in a range of not less than 50% to less than 100%. However, Negley discloses (see, for example, column 11, lines 11-23) a light emitting layer comprising phosphors that emit light. In claims 3-5, Negley discloses the porosity being 50, 70, and 90 percent. It would have been obvious to one of ordinary skill in the art at the time of invention to have the porosity in a range of not less than 50% to less than 100% in order to emit a responsive radiation upon interaction with the exciting radiation emitted by said diode, and since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 14, Murata does not disclose the thickness of the gas layer in a range of not less than 1 um to not more than 300 um. However, it would have been obvious to one of ordinary skill in the art at the time of invention was made to use this range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Art Unit: 2815

Response to Arguments

8. Applicant's arguments with respect to claims 1-5, 7-12, and 14 have been considered but are moot in view of the new ground(s) of rejection.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENE LEE whose telephone number is (571)272-1733. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eugene Lee
April 22, 2009
/Eugene Lee/
Primary Examiner, Art Unit 2815